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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/588,396	06/06/00	BUCKLEY	R 19546-020-(E)

PM82/0402
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EXAMINER

TRAN, K

ART UNIT	PAPER NUMBER
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3634

DATE MAILED: 04/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<p align="center">Office Action Summary</p>	Application No. 09/588,396	Applicant(s) BUCKLEY, RICHARD F.	
	Examiner Khoa Tran	Art Unit 3634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 20) <input type="checkbox"/> Other: |

DETAILED ACTION

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

Claims 1 and 9-11 are objected to because of the second occurrence "comprising" should be --comprises--. Claims 9-11, "one or more windows" should be changed to --at least one window--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to claim 1, it is unclear whether the combination or subcombination is being claimed because the preamble implies the subcombination while the body of the claim positively requires the combination, see lines 5 and 7. With respect to claim 3, it is unclear as to what applicant's intended to set forth when reciting "recrystallized silicon carbide". Claim 5 appears to be presented improperly in a independent form. Further, it is unclear to which structures thereon the

boat that defining an angle. The positive recitation of semiconductor wafers in claim 7 renders the claim indefinite because it is unclear whether a combination or subcombination is being claimed. Note that the preamble of claim 1 implies that only the subcombination is being claimed. Claim 9 is incomplete for omitting the necessary structural cooperative relationship with the structure thereon the boat. Note that there is no structural connection or relationship is set forth between the claimed elements. Claim 11 is rejected for the same reasons that are aforementioned in claims 1 and 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sibley ('230). Sibley ('230) discloses a silicon carbide wafer boat comprising a plurality of slots that position between first and second ends, each of the slot (35) comprises the upper support guides (note that the strip between slots is considered to be the support guides) that maintain the semiconductor wafer (27) in a vertical position, an arcuate lower grooved portions (34) that support the weight of the wafer when the wafer is positioned thereon, and at least one window (32) spaces apart between first and second ends on the wafer boat. See Figure 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sibley ('230) as applied to claims 1, 2, 11 and 12 above, and further in view of obviousness in one of ordinary skill in the art. With respect to claims 3 and 13, to one of ordinary skill in the art, it would have been obvious that the silicon carbide would recrystallized itself to a normal state after exposed to the high temperature when place in a cooler environment. With respect to the dimensioning of the wafer, the angle dimensioning of the wafer boat, the thickness of the wafer boat, and the distance between windows on the wafer boat, it would have been an obvious matter of engineering design choice as determined through routine experimentation and optimization for one of ordinary skill in the art to routinely dimension the diameter of the wafer to be about 300mm and dimension the angle thereon the wafer boat to be ranging from 10-80 degrees, the thickness of the wafer boat to be 5mm and the distance between windows to be 10mm for a particular application thus producing no unexpected results. With respect to claim 7, it would have been obvious to one of ordinary skill in the art as a matter of design choice to make duplication in part of the number of slots thereon the wafer boat in order to accompany the desire number of semiconductor wafers for a particular application thus producing no new matters.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Albert A. Kawachi, R. T. Casey et al., P. L. Farren, Sibley ('649), Mayer, Mason, Senn, Hengst, Dietze et al., and Inoue are cited to show similar configurations of design.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khoa Tran whose telephone number is (703) 306-3437. The examiner can normally be reached on Monday through Thursday from 8:30 A.M. to 7:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola, can be reached on (703) 308-2686. The fax phone number for this Group is (703) 305-3597 or (703) 305-3598.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

If the applicant is submitted by facsimile transmission, applicant is hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of

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Transmission (M.P.E.P 512). The following is an example of the format the certification might take:


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(Signature)

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Khoa Tran
March 20, 2001


Blair M. Johnson
Primary Examiner